Receipt

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PATENT
Case Docket No. TETRAGN.002A
Date: December 23, 1999

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s)	:	Irena N. Merenkova
Appl. No.	:	09/471,703
Filed	:	December 23, 1999
For	:	ANALYSIS OF NUCLEOTIDE POLYMORPHISMS AT A SITE
Examiner	:	Unknown
Group Art Unit	:	1643

I hereby certify that this correspondence and all marked attachments are being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on

May 5, 2000
(Date)
Daniel Hart
Daniel Hart, Reg. No. 40,637

TRANSMITTAL LETTER

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231
ATTENTION: Office of Initial Patent Examination's Customer Service Center

Dear Sir:

Enclosed for filing in the above-identified application are:

(X) Request For Correction Of Filing Receipt.

(X) Copy of the Official Filing Receipt with changes noted in red.

(X) Copy of the first page of the patent application as filed on December 23, 1999 and a copy of the returned postcard stamped by the U.S. Patent and Trademark Office.

(X) Return prepaid postcard.

Daniel Hart
Registration No. 40,637
Attorney of Record

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KNOBBE, MARTENS, OLSON & BEAR, LLP
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(949) 760-0404 FAX (949) 760-9502

TETRAGN.002A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Irena N. Merenkova
App. No.	:	09/471,703
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Daniel Hart, Reg. No. 40,637

REQUEST FOR CORRECTION OF FILING RECEIPT

Assistant Commissioner for Patents
Washington, D.C. 20231

Attn: Office of Initial Patent Examination's Customer Service Center

Dear Sir:

Applicant hereby respectfully requests that the Official Filing Receipt ("OFR") be corrected to show the title as ANALYSIS OF NUCLEOTIDE POLYMORPHISMS AT A SITE. A copy of the first page of the patent application as filed on December 23, 1999 and a copy of the returned postcard stamped by the U.S. Patent and Trademark Office are attached. A copy of the Official Filing Receipt is also attached with the changes noted in red.

Application No.: 09/471,703
Filing Date: December 23, 1999

As the errors cited in the official filing receipt were incurred through the fault of the Patent Office, no fee is believed to be required. However, please charge our Deposit Account No. 11-1410 for any fees that may be incurred with this request. A duplicate of this letter is enclosed for this purpose.

Please forward the corrected Filing Receipt to the undersigned.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: May 5, 2000

By: Daniel Hart

Daniel Hart
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Attorney of Record
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050500

ANALYSIS OF NUCLEOTIDE POLYMORPHISMS AT A SITE

Background of the Invention

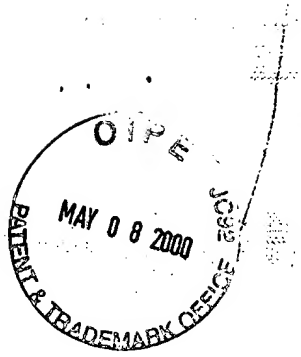
Field of the Invention

The present invention relates to methods of determining the identity of a polymorphic nucleotide in a target sequence having at least two variants such as a single nucleotide polymorphism, or SNP. The methods of the present invention utilize primers having sequences complementary to the region upstream of the position being analyzed. Extension of primers hybridized to target sites is carried out in the absence of a deoxyribonucleoside triphosphate (dNTP) or ribonucleoside triphosphate (rNTP) complementary to one of the polymorphic nucleotides. Differences in length between the primers and any extension products reveal the identity of the nucleotide present at the polymorphic site.

Background of the Invention

DNA polymorphism can be due to differences in sequence or in length of a genomic region. Approximately 80% of human DNA polymorphisms are sequence polymorphisms, while only about 20% are length polymorphisms. About 90% of sequence polymorphisms are single nucleotide polymorphisms (SNPs). SNPs are genetic variations that arise from differences in the identity of a single nucleotide in a nucleic acid sequence, giving rise to two variants (sometimes called alleles) of that site. Sites having three polymorphic nucleotides have also been detected. SNPs appear to be the most widely distributed genetic markers in the human genome, occurring approximately every kilobase. Since SNPs represent the most common type of DNA sequence variation, the ability to discriminate between variants of these genetic markers is a very important tool in genetic research.

Many inherited diseases are the result of single point mutations at SNP sites. In some cases, the single point mutation causing nucleotide substitution in a protein-encoding gene is sufficient to actually cause the disease, as in sickle cell anemia and hemophilia. For diseases influenced by a large number of genes, including diabetes,



UTILITY/DESIGN PATENT

Date: December 23, 1999

(application)

Rec'd in the U.S.P.T.O. on the date stamped hereon via:

Express Mail #: EL531000980US Atty: DOH/DOP

Atty. Dkt. # TETRAGN.002A Applicant: I N. Merenkova.

Title: Analysis of Nucleotide Polymorphisms At A Site

VERIFIED BY: Asst: DOP Quality Control:

- ■ Patent Appln. in 20 pgs. incl. Spec and 33 Claims
- ■ Transmittal 5 pgs. of Drawings
- ☐ Preliminary Amendment in ___ pgs.
- ☐ Power of Atty. by assignee; copy of Assignment
- ☐ Decl. and Power of Atty.
- ☐ Decl. by Inventor(s)
- ☐ Small Entity Statement(s)
- ■ Filed Unsigned
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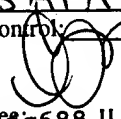

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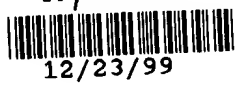

12/23/99

TETRAGN.002A

PTO-103X (Rev. 6-99) DOH DOP

FILING RECEIPT.

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Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
09/471,703	12/23/99	1643	$0.00	TETRAGN.002A	5	33	5

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NEWPORT BEACH CA 92660

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Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts of Application" ("Missing Parts Notice") in this application, please submit any corrections to this Filing Receipt with your reply to the "Missing Parts Notice." When the PTO processes the reply to the "Missing Parts Notice," the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s) I N MERENKOVA.

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 02/11/00
TITLE
ANALYSIS OF NUCLEOTIDE ~~POLYMORPHISMA~~ POLYMORPHISMS AT A SITE

PRELIMINARY CLASS: 435

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DATA ENTRY BY: DIXON, DOROTHY L. TEAM: 04 DATE: 02/11/00

(See reverse for new important information)